

## A. Polo the Penguin and Segments

time limit per test: 2 seconds

memory limit per test: 256 megabytes

input: standard input

output: standard output

Little penguin Polo adores integer segments, that is, pairs of integers  $[l; r]$  ( $l \leq r$ ).

He has a set that consists of  $n$  integer segments:  $[l_1; r_1]$ ,  $[l_2; r_2]$ , ...,  $[l_n; r_n]$ . We know that no two segments of this set intersect. In one move Polo can either widen any segment of the set 1 unit to the left or 1 unit to the right, that is transform  $[l; r]$  to either segment  $[l - 1; r]$ , or to segment  $[l; r + 1]$ .

The *value* of a set of segments that consists of  $n$  segments  $[l_1; r_1]$ ,  $[l_2; r_2]$ , ...,  $[l_n; r_n]$  is the number of integers  $x$ , such that there is integer  $j$ , for which the following inequality holds,  $l_j \leq x \leq r_j$ .

Find the minimum number of moves needed to make the value of the set of Polo's segments divisible by  $k$ .

### Input

The first line contains two integers  $n$  and  $k$  ( $1 \leq n, k \leq 10^5$ ). Each of the following  $n$  lines contain a segment as a pair of integers  $l_i$  and  $r_i$  ( $-10^5 \leq l_i \leq r_i \leq 10^5$ ), separated by a space.

It is guaranteed that no two segments intersect. In other words, for any two integers  $i, j$  ( $1 \leq i < j \leq n$ ) the following inequality holds,  $\min(r_i, r_j) < \max(l_i, l_j)$ .

### Output

In a single line print a single integer — the answer to the problem.

### Examples

<b>input</b>	<a href="#">Copy</a>
<pre>2 3 1 2 3 4</pre>	
<b>output</b>	<a href="#">Copy</a>
<pre>2</pre>	

  

<b>input</b>	<a href="#">Copy</a>
<pre>3 7 1 2 3 3 4 7</pre>	
<b>output</b>	<a href="#">Copy</a>
<pre>0</pre>	

### → Attention

Package for this problem was not updated by the problem writer or Codeforces administration after we've upgraded the judging servers. To adjust the time limit constraint, solution execution time will be multiplied by 2. For example, if your solution works for 400 ms on judging servers, then value 800 ms will be displayed and used to determine the verdict.

### Codeforces Round #177 (Div. 2)

[Finished](#)
[Practice](#)


### → Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

[Start virtual contest](#)

### → Practice

You are registered for practice. You can solve problems unofficially. Results can be found in the contest status and in the bottom of standings.

### → Clone Contest to Mashup

You can clone this contest to a mashup.

[Clone Contest](#)

### → Submit?

 Language: Java 1.8.0\_241

 Choose file: [Choose File](#) No file chosen

Be careful: there is 50 points penalty for submission which fails the pretests or resubmission (except failure on the first test, denial of judgement or similar verdicts). "Passed pretests" submission verdict doesn't guarantee that the solution is absolutely correct and it will pass system tests.